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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,034	06/28/2001	Sam-Chul Ha	P/923-340	5497

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NEW YORK, NY 100368403

EXAMINER
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MOORE, KARLA A

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/894,034

Applicant(s)

HA ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 7-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Allowable Subject Matter*

1. The indicated allowability of claims 5-7, 10-13, 16-19, and 22-27 are withdrawn in view of the newly discovered reference(s) to Edgerton and Goffetre et al. Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 and 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,437,324 to Sando et al.

4. Sando et al. disclose a continuous processing apparatus capable of plasma polymerization, the apparatus having a plurality of chambers to perform a surface processing such as plasma polymerization on a surface of a substance being moved into the chamber, the apparatus comprising: at least one vertical chamber (a plurality of vertical chambers are formed by partition walls (8) in which the substance (2) is moved vertically and at least one electrode (12) included therein; wherein the vertical chamber includes substance pass holes (where substrate moves horizontally to an adjacent chamber) formed at first and second sides thereof and/or top and bottom sides thereof.

5. With respect to claims 2 and 3, each chamber comprises a plurality of electrodes that are disposed in parallel to the movement of the movement direction of a substance in the chamber (see Figure 2).

6. With respect to claim 4, which is drawn to an intended use of the apparatus with no additional structural limitations, the courts have ruled a claim containing a "recitation with respect to the manner in

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which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

7. With respect to claim 11, the apparatus can further be described as a continuous processing apparatus capable of plasma polymerization, the apparatus having a plurality of chambers to perform a surface processing such as plasma polymerization on a surface of a substance being moved into the chamber, the apparatus comprising: at least one vertical chamber (formed by any two adjacent partition plates both extending from the top or the bottom wall) in which the substance is vertically moved and at least one electrode (12) therein; wherein the vertical chamber includes a partition plate (extending from an a wall opposite the wall from which the two adjacent partition plates extend), so that the vertical chamber is divided into two vertical areas by the partition plate.

8. With respect to claim 12, the movement direction of a substance is opposite (the substance travels upwards on one side of the partition and down on the other) in each of the two vertical areas.

9. With respect to claim 13, each of the areas includes at least one electrode disposed in parallel to the movement of the direction as illustrated in Figure 2.

10. With respect to claim 14, Sando et al. further discloses a continuous processing apparatus capable of plasma polymerization, the apparatus having a plurality of chambers to perform a surface processing such as plasma polymerization on a surface of a substance being moved into the chamber, the apparatus comprising: a first vertical chamber (any of the chambers formed by partitions 8) in which a substance (2) is moved vertically, having at least one electrode (12); and a second vertical chamber (adjacent to first chamber) in which a substance is moved vertically having at least one electrode and being spaced apart (by the partition) with a certain interval from the first chamber.

11. With respect to claim 15, which is drawn to an intended use of the apparatus with no addition structural limitations, the courts have ruled a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

12. Claims 7 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,595,792 to Kashiwaya et al.

13. Kashiwaya et al. disclose a continuous processing apparatus capable of plasma polymerization in Figures 1 and 2, the apparatus having a plurality of chambers (30, 31a and 31b) to perform a surface processing such as plasma polymerization on a surface of the substance (21) being moved into a chamber, comprising: at least one vertical chamber (30) in which a substance (21) is vertically moved and at least one electrode (61) included therein; wherein power is applied to the substance, and the substance itself is used as an electrode (column 6, rows 46-56).

14. With respect to claims 21 and 22, Kashiwaya et al. disclose a continuous processing apparatus capable of plasma polymerization in Figures 1 and 2, with a vertical chamber, the apparatus comprising: an unwinding chamber (31a) having an unwinding roll (43) for unwinding a substance (21) wound thereon, a winding chamber (31b) having a winding roll (44) for winding a surface-processed substance, a deposition chamber (30) in which the substance is surface processed by plasma discharging after being conveyed from the unwinding chamber, the substance being vertically movable in the deposition chamber; and a plurality of electrodes (61) included in the/formed at the inner side of the deposition chamber; wherein the vertical chamber includes substance pass holes (see bottom of chamber 30 in Figure 1) formed at the first and second sides thereof and/or top and bottom sides thereof.

15. With respect to claim 23, Kashiwaya further teaches the apparatus comprising at least one roller (49) contacted by the substance being moved; and a power supply unit (52) for rendering the substance itself an electrode by contacting the roller as power is applied to the roller (column 6, rows 46-56).

16. Claims 14-18, 20-21 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,389,970 to Edgerton.

17. With respect to claims 14 and 16, Edgerton discloses a continuous processing apparatus capable of plasma polymerization in Figure 1, the apparatus having a plurality of chambers (28, 30 and 32) to perform a surface processing such as plasma polymerization on a surface of the substance (10) being

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moved into a chamber, comprising: at least one vertical chamber (28) in which a substance (10) is vertically moved and at least one electrode (46) included therein; and a second vertical chamber (32) in which a substance is moved vertically, having at least one electrode (46) and being disposed vertically apart with a certain distance from the first vertical chamber by horizontal chamber (30).

18. With respect to claim 15, which is drawn to an intended use of the apparatus with no addition structural limitations, the courts have ruled a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

19. With respect to claims 17, 18 and 20, Edgerton discloses that each of the chambers is capable of supplying a processing gas and conducting plasma processing, therefore, the first chamber (28) could be used as a pre-processing chamber and the third chamber (32) could be used as a post-processing chamber as claimed. Also, the vertical chambers are identical with the exception of the movement direction of the substance and would be capable of supporting the same processing conditions.

20. Further, Examiner again notes that when it comes to the intended use of an apparatus where no additional structural limitations are presented, the courts have ruled a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

21. With respect to claim 21, Edgerton discloses a continuous processing apparatus capable of plasma polymerization in Figure 1, with a vertical chamber, the apparatus comprising: an unwinding chamber (14) having an unwinding roll (12) for unwinding a substance (10) wound thereon, a winding chamber (18) having a winding roll (16) for winding a surface-processed substance, a deposition chamber (28) in which the substance is surface processed by plasma discharging after being conveyed from the unwinding chamber, the substance being vertically movable in the deposition chamber; and at least one electrode (46) included in the deposition chamber; wherein the vertical chamber includes substance pass

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holes (through valves 48 at top and bottom of chamber) formed at the first and second sides thereof and/or top and bottom sides thereof.

22. With respect to claim 24, the above described apparatus includes a second deposition chamber (32) constructed identically to the deposition chamber above, except that the substance moves in an opposite direction from its movement in the first chamber described above.

***Claim Rejections - 35 USC § 103***

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sando et al. as applied to claim 1-4 and 11-15 above, and further in view of U.S. Patent No. 5,196,100 to Goffetre et al.

25. Sando et al. disclose the invention substantially as claimed and as described above.

26. However, Sando et al. fail to disclose a chamber door to open the side of the chamber body.

27. Goffetre et al. teach the use of pivoting doors supporting electrodes parallel to the substance movement direction in a vertical deposition chamber for the purpose of providing operators with access to the electrodes when necessary (column 4, rows 46-49).

28. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided doors for the electrodes in the prior art in order to provide the operators with access to the electrodes when necessary as taught by Goffetre et al.

29. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edgerton as applied to claims 14-18, 21 and 24 above, and further in view of U.S. Patent No. 5,196,100 to Goffetre et al.



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30. Edgerton disclose the invention substantially as claimed and as described above, including a horizontal chamber having a pass hole formed at the left and right sides thereof so that the substance can pass there through.

31. However, Edgerton fails to teach electrodes facing both the upper and lower surfaces or the electrodes at the inner side of upper and lower doors, which open and close upwardly and downwardly.

32. Goffetre et al. teach the use of two electrodes for coating both surfaces of a substrate and (see Figure 1) and pivoting doors supporting electrodes parallel to the substance movement direction in a vertical deposition chamber for the purpose of providing operators with access to the electrodes when necessary (column 4, rows 46-49). The doors would obviously open upwardly and downwardly to provide access to the electrodes which are placed above and below the substrate.

33. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided doors for the electrodes in the prior art in order to provide the operators with access to the electrodes when necessary as taught by Goffetre et al.

34. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edgerton as applied to claims 14-18, 21 and 24, above, and further in view of U.S. Patent No. 4,437,324 to Sando et al.

35. Edgerton discloses the invention substantially as claimed and as described above.

36. However, Edgerton fails to teach each of the first and second chambers as integrated chambers, with each of the chambers comprising a partition plate at the center thereof to divide each chamber into two areas.

37. Sando et al. disclose an integrated chamber comprising a partition to divide a chamber into two areas for the purpose of creating a zig-zag path for the substrate so that the when transported the substrate is subjected to a zig-zag path with snaky undulations which increases the treating time with plasma (column 4, rows 1-11).

38. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided each of the vertical chambers in Edgerton with a partition in order to form an

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integrated chamber with a zig-zag like path for subjecting a substrate to an apparatus with an increased plasma treating time as taught by Sando et al.

39. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edgerton and Sando et al. as applied to claim 25 above, and further in view of U.S. Patent No. 5,196,100 to Goffetre et al.

40. The prior art discloses the invention substantially as claimed and as described above.

41. However, the prior art fails to teach first and second doors having an electrode at an inner side thereof disposed in parallel to the movement of the substance and opening and closing the left and right side of the chamber body.

42. Goffetre et al. teach the use of pivoting doors supporting electrodes parallel to a substrate movement direction in a vertical deposition chamber for the purpose of providing operators with access to the electrodes when necessary (column 4, rows 46-49). The doors would obviously open to the left and right in order to provide access to the electrodes which are placed on the sides of the substrate.

43. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided doors for the electrodes in the prior art in order to provide the operators with access to the electrodes when necessary as taught by Goffetre et al.

### ***Response to Arguments***

44. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the two chambers being independent and disposed and sealed to prevent the mingling of two different sets of process conditions) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant's claims recite two chambers that are "spaced apart", which reads on the invention of Sando et al.

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**Conclusion**

45. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 703.305.3142. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703.308.1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9310 for regular communications and 703.872.9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661.

km  
May 15, 2003

  
**GREGORY MILLS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**